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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,044	02/05/2001	Yasufumi Ichikawa	33241	8696

116 7590 09/08/2003
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EXAMINER

LELE, TANMAY S

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,044

Applicant(s)

ICHIKAWA, YASUFUMI

Examiner

Tanmay S Lele

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 4 and 10 – 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tiedemann et al. (Tiedemann, World International Property Organization No 96/31,014).

Regarding claims 1 and 10, Tiedemann teaches of a wireless communication apparatus and method having a transmission power control function used to control transmission power of the own communication station by employing a transmission power control bit sent from a communication counter station to the own communication station (page 4, lines 6 – 18), comprising: a control period changing unit which changes a control period of the transmission power control bit (page 5, lines 6 – 25).

Regarding claims 2 and 11, Tiedemann teaches all the claimed limitations as recited in claims 1 and 10. Tiedemann further teaches of further comprising a transmission power control range changing unit which changes a transmission power control range corresponding to the transmission power control bit (starting page 4, line 34 and ending page 5, line 5 and page 12, lines 22 – 25).

Regarding claims 3 and 12, Tiedemann teaches all the claimed limitations as recited in claims 1 and 10. Tiedemann further teaches of comprising a condition detecting unit which detects a condition of the own communication station and a condition of the communication

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counter station, wherein said control period changing unit changes the control period based upon the detected condition (page 5, lines 13 – 25).

Regarding claims 4 and 13, Tiedemann teaches all the claimed limitations as recited in claims 2 and 11. Tiedemann further teaches of comprising a condition detecting unit which detects a condition of the own communication station and a condition of the communication counter station (page 5, lines 13 – 25), wherein said control period changing unit changes the control period based upon the detected condition (page 5, lines 13 – 25), wherein said transmission power control range changing unit changes the transmission power control range based upon the detected condition (starting page 4, line 34 and ending page 5, line 5 and page 12, lines 22 – 25).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 6, 9, 14, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasamatsu (Kasamatsu, US Patent Mp. 5,852,770) in view of Cygan et al. (Cygan, US Patent 5,64,086).

Regarding claims 5 and 14, Kasamatsu teaches of a wireless communication apparatus and method having a transmission power control function used to control said transmission power (column 2, lines 44 – 49), comprising: a first power amplifier and a second power amplifier which amplify transmission power transmitted from the own communication station to

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the communication counter station (Figures 2, 6, 7, and 8); a power amplification control unit which controls a gain of said first power amplifier (Figure 2 and starting column 3, line 46 and ending column 4, line 4).

Kasamatsu does not specifically teach of a matching unit which performs a matching operation of a characteristic of said second power amplifier; and a matching control unit which controls said matching unit.

In a related art dealing with enhancement of radio transmitter performance, Cygan teaches of a matching unit which performs a matching operation of a characteristic of said second power amplifier (Figure 1 and starting column 2, line 55 and ending column 3, line 6); and a matching control unit which controls said matching unit (Figure 1 and starting column 2, line 55 and ending column 3, line 6).

It would have been obvious to one skilled in the art at the time of invention to have included into Kasamatsu's power control system, Cygan's variable matching network, for the purposes of enhancement of operating characteristics of a linear transmitter without the use of an isolator, as taught by Cygan.

Regarding claims 6 and 15, Kasamatsu in view of Cygan, teach all the claimed limitations as recited in claims 5 and 14. Kasamatsu further teaches of comprising: a transmission power detecting unit which detects transmission power of the own communication station (Figure 2 and starting column 3, line 47 and ending column 4, line 13); a transmission power correcting unit which corrects the detected transmission power in response to a communication condition of the own communication station (Figure 2 and starting column 3, line 47 and ending column 4, line 13); and an error calculating unit which calculates an error

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between the corrected transmission power and target transmission power (column 5, lines 30 – 46), wherein said power amplification control unit executes the control operations thereof based upon the calculated error (column 5, lines 30 – 46) and Cygan further teaches of wherein said matching control unit executes the control operations thereof (starting column 4, line 65 and ending column 5, line 14).

Regarding claims 9 and 18, Kasamatsu in view of Cygan, teach all the claimed limitations as recited in claims 6 and 15. Kasamatsu further teaches of comprising: a correction amount calculating unit which calculates a correction amount based upon the error (Figure 2 and starting column 3, line 46 and ending column 4, line 4); and a correction amount limiting unit which limits the calculated correction amount (Figure 2 and starting column 3, line 46 and ending column 4, line 4 and further in column 4, lines 40 – 65 and further provisions in column 5, lines 58 – 67 and column 6, lines 1 – 12), wherein both said power amplification control unit executes the control operations based upon the limiting correction amount and Cygan further teaches of wherein said matching control unit executes the control operations thereof (starting column 4, line 65 and ending column 5, line 14)

5. Claims 7, 8, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasamatsu (Kasamatsu, US Patent Mp. 5,852,770) in view of Cygan et al. (Cygan, US Patent 5,64,086) as applied to claim 6 and 15 above, and further in view of Gilhousen et al (Gilhousen, US Patent No 5,056,109).

Regarding claims 7 and 16, Kasamatsu in view of Cygan, teach all the claimed limitations as recited in claims 6 and 15. Kasamatsu further teaches of wherein said power amplification control unit executes the control operations thereof based upon the error (column 5,

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lines 30 – 46) and Cygan further teaches of wherein said matching control unit executes the control operations thereof (starting column 4, line 65 and ending column 5, line 14).

Kasamatsu in view of Cygan do not specifically teach of further comprising an error selecting unit which selects an error occurred in an effective control section from the plurality of errors which are calculated over a plurality of control sections.

In a related art dealing with power control, Gilhousen teaches of further comprising an error selecting unit which selects an error occurred in an effective control section from the plurality of errors which are calculated over a plurality of control sections (Figure 6 and Column 7, lines 36 – 58 and further in column 8, lines 6 – 11).

It would have been obvious to one skilled in the art at the time of invention to have included into Kasamatsu and Cygan's power control system, Gilhousen's multiple measurements (and hence possible error points), for the purposes of obtaining an average value of errors to assure an acceptable quality communications link, as taught by Gilhousen.

Regarding claim 8 and 17, Kasamatsu in view of Cygan and Gilhousen, teach all the claimed limitations as recited in claims 7 and 16. Kasamatsu further teaches of wherein said power amplification control unit executes the control operations thereof based upon the error (column 5, lines 30 – 46) and Cygan further teaches of wherein said matching control unit executes the control operations thereof (starting column 4, line 65 and ending column 5, line 14) and Gilhousen further teaches of comprising an error averaging unit which averages the selected error (column 8, lines 6 – 11).

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Citation of Pertinent Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


Inventor	Publication	Number	Disclosure
Dobrica	US Patent	6,070,086	Closed Loop Power Transmitter Power Control Unit for CDMA Cellular System
Meyer	US Patent	6,049,251	Wide Dynamic Range Variable Amplifier
Kim	US Patent	6,020,795	Electronically Controllable Impedance Matching Device for Use in RF Amplifier
Butovitsch et al	WIPO	98/56200	Modified Downlink Power Control Macro-Diversity

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.


Tanmay S Lele
Examiner
Art Unit 2684

tsl
August 25, 2003


NAY MAUNG
PRIMARY EXAMINER